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     (FILE 'HOME' ENTERED AT 15:09:54 ON 24 SEP 2007)

     FILE 'MEDLINE' ENTERED AT 15:10:02 ON 24 SEP 2007
L1            75 SEA PLU=ON  ELECTROPORAT? AND SIRNA
                 D TI 40-75
L2             2 SEA PLU=ON  L1 AND ADIPOCYTE
                 D BIB AB 1 2
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=> s electroporat? and ?farad
          5529 ELECTROPORAT?
            51 ?FARAD
L1           1 ELECTROPORAT? AND ?FARAD

=> d bib ab

L1   ANSWER 1 OF 1     MEDLINE on STN
AN   91273972     MEDLINE <<LOGINID::20070924>>
DN   PubMed ID: 2054182
TI   Electroporation of bovine spermatozoa to carry foreign DNA in
     oocytes.
AU   Gagne M B; Pothier F; Sirard M A
CS   Unite de Recherche en Ontogenie et Reproduction, CHUL Research Center,
     Quebec, Canada.
SO   Molecular reproduction and development, (1991 May) Vol. 29, No. 1, pp.
     6-15.
     Journal code: 8903333. ISSN: 1040-452X.
CY   United States
DT   Journal; Article; (JOURNAL ARTICLE)
     (RESEARCH SUPPORT, NON-U.S. GOV'T)
LA   English
FS   Priority Journals
EM   199107
ED   Entered STN: 18 Aug 1991
     Last Updated on STN: 18 Aug 1991
     Entered Medline: 31 Jul 1991
AB   In the present study, electroporation was used to test the
     ability of spermatozoa to carry foreign DNA into the bovine oocytes.
     Frozen-thawed bovine spermatozoa (10(7)/ml) were electroporated
     using six different combinations of voltage (500, 1,000, or 1,500 V) and
     capacitance (1 or 25 microFarads) in the presence of 1 mg/ml of plasmid
     pRGH527.  The portions of plasmids retained by sperm cells after three
     washings (stable for ten washings) were 4.3, 5.5, 5.1, 6.0, 6.8, and 5.8%
     for 1 microFarad, 500, 1,000, and 1,500 V and 25 microFarads,
     500, 1,000, and 1,500 V, respectively.  Nonelectroporated cells have
     retained only 1% of plasmids.  In the same experiment,
     electroporated spermatozoa were acrosome reacted by treatment with
     ionophore A23187 to evaluate the fraction of marked plasmids joined at the
     acrosomal membrane.  The results show that 3.5, 5.0, 4.4, 5.0, 6.3, and
     4.4% remain tied to the ionophore-treated sperm.  Only 0.7% of plasmid was
     retained after removal of the acrosome of nonelectroporated cells.
     Acrosome reaction was not significantly induced by the electrical field
     (EF) (P less than 0.005).  EF decrease motility significantly for greater
     than 100 V in 0.3 M mannitol (M) and mannitol-TALP (MT) (1/1) media and
     greater than or equal to 500 V (P less than 0.05) in TALP medium.  The
     retained plasmid rate was compared between TALP medium M and MT media and
     resulted in a percentage of 1.0, 2.5, 6.5 at 1 microFarads, 100 V, and
     0.9, 3.8, and 3.8 at 25 microFarads, 100 V in TALP, MT, and M medium,
     respectively.  Sperm cells electroporated at 1
     microFarad, 500 or 1,000 V, 25 microFarad, 500 V or
     1,000 in TALP medium hold plasmids in proportion of 5.2, 5.4, 7.4, and
     6.0%.  Electroporation above 100 V in M and MT killed the cells.
     In a part of this experiment, spermatozoa electroporated in the
     presence of radiolabeled plasmids have been treated with DNase I and
     results revealed that 35, 28, 54, 58, and 3% of marked DNA remains in
     sperm cells following digestion after electroporation in TALP
     (1,000 V, 1 and 25 microFarads), M medium (100 V, 1 and 25 microFarads),
     and control, respectively.  Using in vitro matured bovine oocytes, the
     electroporation conditions were correlated with the fertilization
     rate (85% for control and 55% for electroporated spermatozoa).
     Autoradiography of embryos following fertilization indicated the presence
     of plasmids in the cytoplasm and in the zona pellucida.(ABSTRACT TRUNCATED
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AT 400 WORDS)

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=>  s electroporat? and ?farads
          5529 ELECTROPORAT?
            23 ?FARADS
L2           2 ELECTROPORAT? AND ?FARADS

=> d bib ab 1 2

L2   ANSWER 1 OF 2     MEDLINE on STN
AN   95393119     MEDLINE <<LOGINID::20070924>>
DN   PubMed ID: 7664017
TI   Optimisation of gene transfer into vascular endothelial cells using
     electroporation.
AU   Kotnis R A; Thompson M M; Eady S L; Budd J S; Bell P R; James R F
CS   Department of Surgery, University of Leicester, Leicester Royal Infirmary,
     U.K.
SO   European journal of vascular and endovascular surgery : the official
     journal of the European Society for Vascular Surgery, (1995 Jan) Vol. 9,
     No. 1, pp. 71-9.
     Journal code: 9512728. ISSN: 1078-5884.
CY   ENGLAND: United Kingdom
DT   Journal; Article; (JOURNAL ARTICLE)
     (RESEARCH SUPPORT, NON-U.S. GOV'T)
LA   English
FS   Priority Journals
EM   199510
ED   Entered STN: 20 Oct 1995
     Last Updated on STN: 20 Oct 1995
     Entered Medline: 12 Oct 1995
AB   OBJECTIVES: We have examined the conditions required to obtain optimum
     transfection efficiencies for human umbilical vein endothelial cells by
     transduction with a plasmid conferring neomycin resistance.  MATERIALS AND
     METHODS: Preliminary studies examined the effects of electric discharges
     using the Biorad Gene Pulser on endothelial cells.  Post-
     electroporation, there was a significant decrease in cell survival
     with increasing voltages (100-400 volts; p = 0.03), capacitances [125-960
     microFarads (microF); p = 0.02], number of electric pulses (1-2; p
     = 0.03) and decreasing cell concentrations (p = 0.01).  The optimal cell
     concentration was 3 x 10(6) cells/ml.  Transfection studies utilised the
     neomycin resistance expressing plasmid, pTCF; transfectants were selected
     with the neomycin analogue G-148.  RESULTS: Electro-transfection was
     optimised with increasing voltages (p = 0.02) and capacitances (p = 0.01)
     using a single pulse.  Optimal transfection was obtained using 400 volts
     with a capacitance of 960 microF using a single pulse; the median
     transfection efficiency was 10%.  Transduced endothelial cells stably
     expressed the plasmid for 12 days and at least two cell passages.
     CONCLUSIONS: The results indicate that endothelial cells can be
     efficiently transduced by electroporation to stably express an
     introduced gene.  This may have important implications in vascular
     surgery.

L2   ANSWER 2 OF 2     MEDLINE on STN
AN   91273972     MEDLINE <<LOGINID::20070924>>
DN   PubMed ID: 2054182
TI   Electroporation of bovine spermatozoa to carry foreign DNA in
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AU   Gagne M B; Pothier F; Sirard M A
CS   Unite de Recherche en Ontogenie et Reproduction, CHUL Research Center,
     Quebec, Canada.
SO   Molecular reproduction and development, (1991 May) Vol. 29, No. 1, pp.
     6-15.
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CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 199107
ED Entered STN: 18 Aug 1991
Last Updated on STN: 18 Aug 1991
Entered Medline: 31 Jul 1991
AB In the present study, electroporation was used to test the ability of spermatozoa to carry foreign DNA into the bovine oocytes. Frozen-thawed bovine spermatozoa (10(7)/ml) were electroporated using six different combinations of voltage (500, 1,000, or 1,500 V) and capacitance (1 or 25 microFarads) in the presence of 1 mg/ml of plasmid pRGH527. The portions of plasmids retained by sperm cells after three washings (stable for ten washings) were 4.3, 5.5, 5.1, 6.0, 6.8, and 5.8% for 1 microFarad, 500, 1,000, and 1,500 V and 25 microFarads , 500, 1,000, and 1,500 V, respectively. Nonelectroporated cells have retained only 1% of plasmids. In the same experiment, electroporated spermatozoa were acrosome reacted by treatment with ionophore A23187 to evaluate the fraction of marked plasmids joined at the acrosomal membrane. The results show that 3.5, 5.0, 4.4, 5.0, 6.3, and 4.4% remain tied to the ionophore-treated sperm. Only 0.7% of plasmid was retained after removal of the acrosome of nonelectroporated cells. Acrosome reaction was not significantly induced by the electrical field (EF) (P less than 0.005). EF decrease motility significantly for greater than 100 V in 0.3 M mannitol (M) and mannitol-TALP (MT) (1/1) media and greater than or equal to 500 V (P less than 0.05) in TALP medium. The retained plasmid rate was compared between TALP medium M and MT media and resulted in a percentage of 1.0, 2.5, 6.5 at 1 microFarads, 100 V, and 0.9, 3.8, and 3.8 at 25 microFarads, 100 V in TALP, MT, and M medium, respectively. Sperm cells electroporated at 1 microFarad, 500 or 1,000 V, 25 microFarad, 500 V or 1,000 in TALP medium hold plasmids in proportion of 5.2, 5.4, 7.4, and 6.0%. Electroporation above 100 V in M and MT killed the cells. In a part of this experiment, spermatozoa electroporated in the presence of radiolabeled plasmids have been treated with DNase I and results revealed that 35, 28, 54, 58, and 3% of marked DNA remains in sperm cells following digestion after electroporation in TALP (1,000 V, 1 and 25 microFarads), M medium (100 V, 1 and 25 microFarads), and control, respectively. Using in vitro matured bovine oocytes, the electroporation conditions were correlated with the fertilization rate (85% for control and 55% for electroporated spermatozoa). Autoradiography of embryos following fertilization indicated the presence of plasmids in the cytoplasm and in the zona pellucida.(ABSTRACT TRUNCATED AT 400 WORDS)